CLAIMS

What is claimed is:

1. In a network, a method for simulating transmission control protocol streams, said method comprising the steps of:

a) initiating at least one transmission control protocol session, said transmission protocol session operable to transmit data packets, said transmission control protocol session comprising a current window size and a maximum window size, said current window size defining an amount of unacknowledged data actually being sent, said maximum window size defining an amount of unacknowledged data that can be sent; and

b) initiating an unacknowledged traffic stream for the transmission control protocol session, wherein said unacknowledged traffic stream is controlled by said transmission control protocol sessions such that said unacknowledged traffic stream simulates acknowledged traffic streams.

2. The method as recited in Claim 1 wherein said method is configured to operate on a high speed network.

3. The method as recited in Claim 2 wherein said high speed network is configured to operate on a fiber optic network.

4. The method as recited in Claim 1 further comprising the step of dividing said current window size by said maximum window size resulting in a success ratio, said success ratio indicating the relative success of packet transmissions.

5. The method as recited in Claim 4 further comprising the steps of:

multiplying said success ratio by an oversubscription factor resulting in a first value, said oversubscription factor operable to create network congestion;

dividing said first value by the number of said transmission control protocol session initiated in step a) of said method resulting in a second value; and

multiplying said second value by a link speed resulting in a stream rate, said link speed defined by the bandwidth of a network wherein said transmission control protocol sessions reside, said stream rate defined as the transfer rate for said transmission protocol session.

6. The method as recited in Claim 1 wherein said maximum window size is sixty-five kilobytes.

7. The method as recited in Claim 1 wherein one hundred transmission control protocol sessions are initiated.

8. The method as recited in Claim 5 wherein said oversubscription factor is 1.1.

9. The method as recited in Claim 5 wherein said link speed is 10 gigabytes.

10. A computer system in a computer system network, said computer system comprising:

a bus;

a memory unit coupled to said bus; and

a processor coupled to said bus, said processor for executing a method for simulating transmission control protocol streams in a network, said method comprising the steps of:

a) initiating at least one transmission control protocol session, said transmission protocol session operable to transmit data packets, said transmission control protocol session comprising a current window size and a maximum window size, said current window size defining an amount of unacknowledged data actually being sent, said maximum window size defining an amount of unacknowledged data that can be sent; and

b) initiating an unacknowledged traffic stream for the transmission control protocol session, wherein said unacknowledged traffic stream is controlled by said transmission control protocol sessions such that said unacknowledged traffic stream simulates acknowledged traffic streams.

11. The computer system as recited in Claim 10 wherein said method is configured to operate on a high speed network.

12. The computer system as recited in Claim 11 wherein said high speed network is configured to operate on a fiber optic network.

13. The computer system as recited in Claim 10 wherein said processor performs said method for simulating transmission control protocol streams in a network, said method further comprising the step of dividing said current window size by said maximum window size resulting in a success ratio, said success ratio indicating the relative success of packet transmissions.

14. The computer system as recited in Claim 13 wherein said processor performs said method for simulating transmission control protocol streams in a network, said method further comprising the steps of:

multiplying said success ratio by an oversubscription factor resulting in a first value, said oversubscription factor operable to create network congestion;

dividing said first value by the number of said transmission control protocol session initiated in step a) of said method resulting in a second value; and

multiplying said second value by a link speed resulting in a stream rate, said link speed defined by the bandwidth of a network wherein said

transmission control protocol sessions reside, said stream rate defined as the transfer rate for said transmission protocol session.

15. The computer system as recited in Claim 10 wherein said maximum window size is sixty-five kilobytes.

16. The computer system as recited in Claim 10 wherein one hundred transmission control protocol sessions are initiated.

17. The computer system as recited in Claim 14 wherein said oversubscription factor is 1.1.

18. The computer system as recited in Claim 14 wherein said link speed is 10 gigabytes.

19. A computer-usable medium having computer readable program code embodied therein for causing a computer system to perform the steps of:

a) initiating at least one transmission control protocol session, said transmission protocol session operable to transmit data packets, said transmission control protocol session comprising a current window size and a maximum window size, said current window size defining an amount of unacknowledged data actually being sent, said maximum window size defining an amount of unacknowledged data that can be sent; and

b) initiating an unacknowledged traffic stream for the transmission control protocol session, wherein said unacknowledged traffic stream is controlled by said transmission control protocol sessions such that said unacknowledged traffic stream simulates acknowledged traffic streams.

20. The computer-usable medium as recited in Claim 19 wherein said program code is configured to operate on a high speed network.

21. The computer-usable medium as recited in Claim 20 wherein said high speed network is configured to operate on a fiber optic network.

22. The computer-usable medium as recited in Claim 19 wherein said computer readable program code embodied therein for causes a computer system to perform the step of dividing said current window size by said maximum window size resulting in a success ratio, said success ratio indicating the relative success of packet transmissions.

23. The computer-usable medium as recited in Claim 22 wherein said computer readable program code embodied therein for causes a computer system to perform the steps of:

multiplying said success ratio by an oversubscription factor resulting in a first value, said oversubscription factor operable to create network congestion;

dividing said first value by the number of said transmission control protocol session initiated in step a) of said method resulting in a second value; and

multiplying said second value by a link speed resulting in a stream rate, said link speed defined by the bandwidth of a network wherein said transmission control protocol sessions reside, said stream rate defined as the transfer rate for said transmission protocol session.

24. The computer-usable medium as recited in Claim 19 wherein said maximum window size is sixty-five kilobytes.

25. The computer-usable medium as recited in Claim 19 wherein one hundred transmission control protocol sessions are initiated.

26. The computer-usable medium as recited in Claim 23 wherein said oversubscription factor is 1.1.

27. The computer-usable medium as recited in Claim 23 wherein said link speed is 10 gigabytes.

28. A method for testing congestion avoidance on a network comprising the steps of:

a) initiating at least one transmission control protocol session, said transmission protocol session operable to transmit data packets, said transmission control protocol session comprising a current window size and a maximum window size, said current window size defining an amount of unacknowledged data actually being sent, said maximum window size defining an amount of unacknowledged data that can be sent;

b) initiating an unacknowledged traffic stream for the transmission control protocol session, wherein said unacknowledged traffic stream is controlled by said transmission control protocol sessions such that said unacknowledged traffic stream simulates acknowledged traffic streams;

c) dividing said current window size by said maximum window size resulting in a success ratio, said success ratio indicating the relative success of packet transmissions;

d) multiplying said success ratio by an oversubscription factor resulting in a first value, said oversubscription factor operable to create network congestion;

e) dividing said first value by the number of said transmission control protocol session initiated in step a) of said method resulting in a second value; and

f) multiplying said second value by a link speed resulting in a stream rate, said link speed defined by the bandwidth of a network wherein said transmission control protocol sessions reside, said stream rate defined as the transfer rate for said transmission protocol session.

29. The method as recited in Claim 28 wherein said high speed network is configured to operate on a fiber optic network.

30. The method as recited in Claim 28 wherein said maximum window size is sixty-five kilobytes.

31. The method as recited in Claim 28 wherein one hundred transmission control protocol sessions are initiated.

32. The method as recited in Claim 28 wherein said oversubscription factor is 1.1.

33. The method as recited in Claim 28 wherein said link speed is 10 gigabytes.